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Accessing Statistics Canada's Agri-Business Data for Research

**Canadian Centre for Data Development
and Economic Research (CDER)**

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Outline

1. Canadian Centre for Data Development and Economic Research (CDER)
2. Datasets available through CDER
3. How to get access

Canadian Centre for Data Development and Economic Research (CDER)

- Repository for business and economic microdata files.
- Established in Ottawa in 2012 to provide secure access to external researchers to use business microdata at Statistics Canada for analysis.
- Application process required for access.
- Cost recovery
- 13 key databases, many available for agri-business analysis.

CDER Agri-business datasets

1. Longitudinal Census of Agriculture (L-CEAG)
2. Trade by Exporter Characteristics (TEC)
3. Surface Transportation File (STF)
4. Longitudinal Annual Survey of Manufacturing (ASM)
5. Longitudinal Administrative Database (LAD)
6. Canadian Employer-Employee Dynamics Database (CEEDD)

Longitudinal Census of Agriculture (L-CEAG)

- Longitudinal administrative database of farms and farm operators.
- Connects multiple censuses: 1986, 1991, 1996, 2001, 2006, and 2011.
- 1,531,706 records and currently has 101 variables.
- Longitudinally-consistent Agricultural Operation Identifier (AGOPID), industry- and geography-based classifying variables, and analytical variables.

Selected variables

Variable	Description	Variable	Description
<i>Matching</i>		<i>Inputs</i>	
AGOPIID	Agricultural operation identifier	FERTPD	Fertilizer and lime purchases
<i>Classification</i>		HERBCI	Use of herbicides
YEAR	Census year	INSECI	Use of insecticides and fungicides
PROV	Province	<i>Technology</i>	
LCSD	Longitudinal census subdivision	IRRIG	Use of irrigation
LNAICS	Longitudinal industry classification	COMPNY	Personal computers used for management
<i>Farm size</i>		TILLNO	No tillage
TFAREA	Total area of farms in acres	<i>Products</i>	
AOWNED	Area owned in acres	CANOLA	Canola
ALSDGOV	Area rented or leased from governments in acres	SUMMRF	Summerfallow
ARNTED	Total area rented or leased from others in acres	TOTWHT	Total wheat
<i>Economic</i>		BARLEY	Total barley
SALE	Total gross farm receipts	TAMHAY	Total tame hay
TOTEXP	Total farm business operating expenses	TCATTL	Total cattle and calves
VALULB	Total land and buildings – market value	TOPIGS	Total pigs
VALMCH	Farm machinery and equipment – market value	CATLNY	Cattle on farm
TCSHWGE	Total wages and salaries	PIGSNY	Pigs

Types of analyses

- Farm dynamics:
 - Trends in entry and exit over time.
 - Explaining farm entry or exit in Canada.
 - Life cycle patterns.

- Farm profitability:
 - The role of changing farm attributes over time.

- Technology adoption:
 - The role of competitive pressures on adopting new seeding technology (tillage / no tillage).

Trade by Exporter Characteristics (TEC)

- Replaces what is formerly known as the Export Register.
- Characteristics of Canadian businesses who export goods to countries outside of Canada.
- Data are extracted from administrative files and derived from other Statistics Canada surveys and/or other sources.
- Enterprise level, covering 2010 to 2014 (annual).

TEC key variables 2010-2014

Enterprise

- Enterprise ID
- **NAICS**
- Province
- Census Metropolitan Area (CMA) codes
- Employment

Trade

- **HS-8 commodity codes**
- Country of destination
- Export only to US or not
- Number of partner countries
- Value of shipments

NAICS and HS 8-digit provide both industry and commodity dimensions.

Surface Transportation File (STF)

- Shipments characterised by **commodity**, tonnage, value and (network) distance
- Two major surface modes: trucking and rail
- Transportation costs measured on a level and ad valorem basis
- Period: 2004 to 2012
- Benchmarked to inter/intra-provincial trade totals
- Geocoded (lat/long) origin and destination points

STF features

- **Comprehensive.** Includes the majority of goods movement in Canada and between Canada and the U.S. by value
- **Flexible.** Inter-regional movement of goods on logistics *and* trade basis
- **Consistent.** Identifiers (i.e., geography and **commodity**) are consistent through time and across modes

Types of analyses

- Multi-use, micro-data file for analytical work
 - Cost of moving goods across the Canada-U.S. border
 - Provincial border effects
 - Canada-U.S. border effects
 - Market size available to firms
 - Effect of firm networks on trade flows
 - Inter-regional trade flows
- **SCTG/IOCC** codes can be used at an aggregate level.

Annual Survey of Manufacturing (ASM)

- Survey of manufacturing industries at the plant level (plant < establishment < enterprise)
- Effectively a census
- Covers 1961 to 2012 *
- Consistent identifiers to follow plants and enterprises through time.

ASM Continued

- Variables include:
 - value of shipments, employment, salaries and wages, cost of materials and supplies used, inventories, commodity data, including shipments or consumption of particular products, exporter status, destination of exports... 100s of variables.

- NAICS codes can be used to focus on the agricultural sector , food manufacturing sector, food and beverage retailers

- Diversity of the file permits many kinds of analyses
 - Productivity
 - Firm dynamics
 - Exporting behaviour (interprovincial and international)

Longitudinal Administrative Databank (LAD)

- 20% sample of T1 Family File and Longitudinal Immigration Data Base, 1984 to 2014
- Census family and individuals
- Variables allow analysis on income and demographics, socioeconomic conditions.
- Has been used in the past to examine unincorporated farm-owners.
 - Self-employment identifier
 - Farm income

Canadian Employer-Employee Dynamics Database (CEEDD)

- Matched employer-employee database, 1983 to 2012
 - More variables, especially at the firm-level, are available after 2001
- Covers the universe of individual tax filers, unincorporated businesses, and corporations in Canada.
- Links across various administrative tax files:
 - T1 individual tax, T1 Family File, Immigrant Landing File, T4 employment remuneration, T1 unincorporated business, Record of Employment, temporary residents file, firm performance data from the National Accounts Longitudinal Micro data File

CEEDD continued

- Contains information for 3 main fields:
 - Employees (demographics, immigrant status, employment income, etc.)
 - Firms (business type, employment, payroll, revenue, expense, profit, workforce, etc.)
 - Business owners (demographic, ownership type, ownership share, income from business)
- **Can identify incorporated farms**
 - Interaction between workers and farms
 - Characteristics of the workforce

CDER access

- Two processes:
 - Researchers unaffiliated with a federal government department
 - Researchers affiliated with a federal government department

Non-federal government researchers

1. Draft a detailed proposal and contact CDER
2. Submit final project proposal
 - a. Includes application for accreditation
 - b. Letter from lead researcher indicating how costs will be covered, how peer review will be handled.
3. Evaluation of proposal
4. Security screening
5. Sworn in as deemed employee of Statistics Canada and sign a microdata research contract.



Contact information

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